

### **REMARKS**

Claims 1-12, 14-15, 17 and 18 are pending in the subject application. Favorable reconsideration in light of the remarks which follow is respectfully requested.

#### **1. 35 U.S.C. §112 Rejections**

Claims 1-12, 14-15 and 17-18 have been rejected under 35 U.S.C. §112, second paragraph, as being indefinite. The Office asserts that:

Regarding claims 1, 17 and 18, the limitation of the outermost layer having a shape factor and the method of determining the shape factor is indefinite and vague. It is not understood whether the outermost layer contains a shape factor or if the shape factor is a measurement. It is also not understood if "a peak shape of Raman spectrum" is being claimed as a component of the outermost layer or merely describing the method of determining frequency peaks that are used to determine the shape factor. Shape factor is not defined to a point that enables one of ordinary skill in the art to understand what is referred to as shape factor. Note that methods measuring articles for determining certain values receive little patentable weight in article claims, because articles are defined by structure not merely stating intended results and special methods to determine the intended results.

Applicants respectfully traverse.

The shape factor is clearly defined in the specification (see page 12, line 8 – page 14, line 8; Fig. 1). The shape factor is a property of the film and is not a factor that is necessarily consistent for films having the same components. In particular, the shape factor is a parameter that can be varied as desired by utilizing specific methods, including methods comprising the addition of a crystal nucleating agent or an amorphous material to the outermost layer (A). The peak shape of Raman spectrum is used as a method for determining the shape factor as described on page 12, line 8 – page 14, line 8; Fig. 1). Applicants respectfully submit that the shape factor is a structural element that describes the outermost layer – it is a numerical value of a property of the outermost layer. This type of a property is similar to describing a composition by the specific quantities of components used. Applicants further submit that the shape factor of a film is a well-known property and, thus, that there would be

no ambiguity regarding this property to one of skill in the art. See, for example, (1) *J. Polymer Sci. A-2*, Vol 10, p. 317 (1972); (2) *Laxer Raman Spectrum Method* (Japanese version) by Nissan Arc Co., Ltd; and (3) *Laser Raman Spectrometer (RAMAN)* (Japanese Version) by Asahi Kasei Co., Ltd. (Copies of each referenced are enclosed. If necessary, Applicant will prepare and present an English Language translation of documents (2) and (3).).

## 2. 35 U.S.C. §103 Rejections

Claims 1-12, 14-15, and 17-18 have been rejected under 35 U.S.C. §103(a) over Futagawa. In particular, the office indicates that the rejections are repeated for the reasons previously of record in Paper #7, Pages 6-9, Paragraph 3. In particular, the Office asserted that

it would have been obvious to one having ordinary skill in the art at the time the applicants' invention was made to arrive at measured values of the shape factor of less than 2.2 and a haze of 2-20% for Futagawa's film, because the film comprises the same layers, with the same composition, produced by the same method, and intended for the same use, and the film is heat-sealed to form the packaging bag by the same method as the instant invention. Measurements of the same article have the same results, and merely testing an article by different methods is given little patentable weight in article claims, articles are defined only by structure.

Applicants respectfully traverse.

As set out by Applicants, packaging bags for foods have been formed using an unstretched laminated film comprising an outermost layer formed of polyethylene terephthalate or polyethylene naphthalate, an innermost layer formed of a heat-sealing resin and an intermediate layer formed of a gas-barrier resin. While these bags have excellent heat resistance, they tend to curl at open edges, which makes it difficult to use in filling and packaging machines. Further, such films tend to curl considerably prior to being formed into a packaging bay by heat-sealing (See page 1, line 14 – page 2, line 1).

Thus, Applicants have produced an improved laminated film that overcomes these problems with curling. In particular, Applicants found that curling can be

prevented by providing a specific type of outermost layer having very specific properties. In particular, Applicants provide a laminated film having an outermost layer comprising a polybutylene terephthalate homopolymer, a polybutylene terephthalate copolymer or a mixture of the polybutylene terephthalate homopolymer and the polybutylene terephthalate copolymer. Further, this outer layer must have a shape factor of not less than 2.2.

As clearly demonstrated by Applicants in the Examples and Comparative Examples (p. 19-22) and Tables 1 and 2 which set forth the data and results corresponding to the Examples and Comparative Examples, even if two films contain identical materials and use similar cooling methods, the resulting shape factor, haze and curling of the film can vary. In particular, both Example 1 and Comparative Example 1 used the following identical layer structure: Homo-PBT/APO/NY/APO/L-LDPE and both used a water cooling method using water of 25°C. However, the film of Example 1 had a shape factor of 2.32 (greater than 2.22) and a haze of 5.5%, while the film of Comparative Example 1 had a shape factor of 1.81 (not greater than 2.22) and a haze of 12.3%. Further, both Example 2 and Comparative Example 2 used the following identical layer structure: Co-PBT/APO/NY/APO/L-LDPE and both used a water cooling method using water of 25°C. However, the film of Example 2 had a shape factor of 2.38 (greater than 2.22) and a haze of 5.3%, while the film of Comparative Example 2 had a shape factor of 1.86 (not greater than 2.22) and a haze of 11.8%. Still further, both Example 3 and Comparative Example 3 used the following identical layer structure: Co-PBT/APO/L-LDPE and both used a water cooling method using water of 25°C. However, the film of Example 3 had a shape factor of 2.72 (greater than 2.22) and a haze of 4.8%, while the film of Comparative Example 3 had a shape factor of 2.12 (not greater than 2.22) and a haze of 9.5%. Still further, both Example 1 and Comparative Example 4 used the following identical layer structure: Homo-PBT/APO/NY/APO/L-LDPE. Example 1 used a water cooling method using water of 25°C. Comparative Example 4 used an air-cooling method. The film of Example 1 had a shape factor of 2.32 (greater than 2.22) and a haze of 5.5%, while the film of Comparative Example 4 had a shape factor of 1.81 (not greater than 2.22) and a haze of 33.7%.

Thus, it is clearly demonstrated that even if identical layer structures are used and similar methods are used, the resulting shape factor and haze will not necessarily be the same. In particular, a film having identical layer structure to Applicants will not necessarily possess a shape factor of greater than 2.22. Further, the film will not necessarily have the same or similar haze. Still further, the film will not necessarily be free of curling as the present films are.

The Futugawa reference describes a packaging bag comprising a heat-sealed, unstretched laminated film comprising:

- (A) a blended resin layer comprising a polyethylene naphthalate resin and a polyethylene terephthalate resin, or a polybutylene terephthalate resin layer;
- (B) a gas-barrier resin layer; and
- (C) as an innermost layer, a heat-sealable resin layer.

However, as acknowledged by the Office, Futugawa is completely silent with respect to the shape factor of the outermost layer.

Even if Futugawa describes the exact same layers formed of the same components, and even if Futugawa describes that the film is produced by a water-cooled fabricating method of co-extrusion, Applicants respectfully submit that this does not necessarily result in any particular shape factor. The Office asserts that because the "outermost layer is made of the same composition, produced by the same method, and intended for the same use as the instant invention", it will inherently have a shape factor of not less than 2.2. Applicants respectfully submit that that this is not true as demonstrated in Applicants specification, in comparing Example 1 and Comparative Example 1, Example 2 and Comparative Example 2, and Example 3, Comparative Example 3. As set out above, the films of (A) Example 1 and Comparative Example 1, (B) Example 2 and Comparative Example 3 and (C) Example 3 and Comparative Example 3: (a) both have an outermost layer formed of the same composition, (b) are both produced using a water cooled fabricating method and (3) are both intended for the same use (packaging films). However, while the films of Examples 1, 2 and 3 have a shape factor of greater than 2.2, the films of Comparative Examples 1, 2 and 3 do not.

It is well established that "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.' " *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999)

As demonstrated, even if Futugawa describes a laminate having an outermost layer with the same components as those taught by Applicants, and even if the methods for producing are the same, the resulting film will not necessarily have the shape factor taught by Applicants. The shape factor can be affected by a number of variables such as, for example, the type of cooling method, the temperature of the cooling medium, the amount of cooling medium (e.g. flow rate of water), extrusion output (kg/h), die temperature (e.g., resin temperature), and the like. These variables are not specified by Futugawa. As acknowledged, at the least, the amount of cooling water is not specified by Futugawa. This single variable can cause a film to not have the required shape factor as clearly demonstrated in Applicants' specification (see Examples). Because Futugawa does not specify this variable, then any amounts could be assumed and, thus, the required shape factor would not necessarily result as required to support an argument of inherency.

Further, regarding the Office's assertion that the films of the present invention and those of Futugawa "are produced by the same method", Applicants respectfully disagree. Futugawa does not describe or suggest the specific operating conditions used to produce its films. For example, even if Futugawa describes a water-cooled fabricating method of co-extrusion, as asserted by the Office, Futugawa does not set out the specifics of this water-cooled method of co-extrusion. As an example, Futugawa does not specify the amount of cooling water used. As clearly demonstrated by Applicants, by very slightly changing a single variable (like the amount of cooling water fed in the water cooled fabrication method), the resulting film varies significantly and does not meet the requisite shape factor as taught by Applicants.

Still further, regarding the Office's assertion that:

it would have been obvious to one having ordinary skill in the art at the time the applicants' invention was made to arrive at measured values of the shape factor of less than 2.2 and a haze of 2-20% for Futagawa's film

Applicants respectfully traverse. As the Federal circuit has stated, "[t]he mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." *In re Fritch*, 972 F.2d 1260,1266, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992). Obviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor. *Para-Ordance Mfg. v. SGS Importers Int'l, Inc.*, 73 F.2d 1085, 1087, 37 USPQ2d 1237, 1239 (Fed. Cir. 1995).

There is absolutely no description or suggestion in the Futagawa reference regarding the shape factor. Further, there is no suggestion, other than Applicants' own teaching, that modification of the shape factor has any desirable effect on the laminated films. This suggestion comes purely from Applicants. Thus, even though the shape factor could be modified as suggested by the Office, it would not be obvious to do so because there is absolutely no motivation provided to do so. Applicants respectfully submit that the Office is using impermissible hindsight reasoning in view of Applicants' teaching.

Further, it has been established that a particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); MPEP §2144.05. As set out, the cited references do not recognize the shape factor as a variable that achieves a recognized result. It is Applicants that have done so. Thus, the "optimization" of this value could not be characterized as routine experimentation.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references

themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). MPEP 2142.

As set out above, Futugawa does not teach or suggest all of Applicants claim limitations. In particular, Futugawa is completely silent with respect to the shape factor of the outermost layer. Further, the shape factor taught by Applicants is not inherent in Futugawa. As clearly demonstrated in Applicants' specification (Examples), the shape factor varies significantly even if the same materials are used in forming the laminate and even if the same methods are used in producing the laminate. In particular, by only slightly varying a single factor, such as cooling water flow rate, which are not specified by Futugawa, can lead to dramatically different shape factors inconsistent with Applicants' teaching. Further, as set out above, there is absolutely no suggestion or motivation to modify Futugawa so as to provide the shape factors taught by Applicants. This variable is not mentioned by Futugawa and is not recognized by Futugawa as providing any recognizable results or benefits.

Thus, Applicants respectfully submit that the claims are patentable over Futugawa. Reconsideration and withdrawal of the rejection is respectfully requested.

### **CONCLUSION**

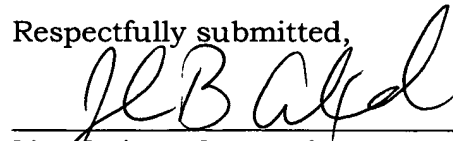
Reconsideration and allowance of claims 1-12, 14-15, 17 and 18 is respectfully requested in view of the foregoing discussion. This case is believed to be in condition for immediate allowance. Applicants respectfully requests early consideration and allowance of the subject application.

Applicants believe that no extension of time is required since this response is being filed before the expiration of the specified time period. Applicants, however, conditionally petition for an extension of time to provide for the possibility that such a

petition has been inadvertently overlooked and is required. As provided below charge Deposit Account No. **04-1105** for any required fee.

Should the Examiner wish to discuss any of the amendments and/or remarks made herein, the undersigned attorney would appreciate the opportunity to do so.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "JBA", is written over a horizontal line.

Lisa Swiszc Hazzard (Reg. No. 44,368)  
John B. Alexander, Ph.D. (Reg. No. 48,399)  
EDWARDS & ANGELL, LLP  
P.O. Box 9169  
Boston, MA 02209  
Tel. No. (617) 517-5512